

ABSTRACT OF THE DISCLOSURE

A method of making a shallow trench isolation feature including 1) providing a semiconductor substrate, 2) forming a polish stop layer over the semiconductor substrate, 3) forming a nitride containing layer over the polish stop layer, 4) forming a shallow trench layer through a portion of the nitride containing layer, a portion of the polish stop layer and a portion of the semiconductor substrate, 5) removing the nitride containing layer by a chemical mechanical polishing process, and 6) planarizing the shallow trench layer and the polish stop layer until a surface of the shallow trench layer and a surface of the polish stop layer are co-planar.